

US EPA ARCHIVE DOCUMENT

# **EPA Region IV Meeting**

**Monday, July 27, 2009**



**Dalton**  
UTILITIES

# Wastewater



- **Five treatment plants**
  - *Permitted treatment capacity: 66.6 MGD daily*
  - *Equalization Basin*
  - *Sewer use rules regulate influent loading to treatment facilities and set industrial customers' pretreatment limits*
- **Land Application System: 9,800+ acre forested system**
  - *4 pump stations, 12 pumps, 2.9 miles of effluent canal, 320 miles of piping and over 19,000 sprayheads*
  - *Reservoir capacity - 2.7 billion gallons*
- **Biosolids Handling**
  - *1998: Discontinued land application, rehabilitated sprayfields & constructed temporary dewatering facility*
  - *2000: Completed dewatering facility in 2000*
  - *2002: Began composting operation*
    - *Outside entity markets finished product*
    - *100 tons of dewatered solids produced per day – 100% composted*
  - *2005: Permanent composting facility constructed*



# Abutment WWTP



- **Our oldest wastewater plant. Refurbished in 1993**
  - Went to tapered diffused air system
  - Rebuilt pump stations
  - Placed 2 trickling filters in service that had previously been down
- **Can treat between 10 to 12 MGD**



# Loopers WWTP

**BEFORE**





# Loopers WWTP

- Plant completed October 1999
- Diffused air facility
  - ➔ 32,400 diffusers
- Designed to treat 20 MGD
  - ➔ Removal Efficiency of plant:  
**BOD – 97% COD – 89%**
- Extremely high quality effluent
- 2006 & 2009 winner of the GAWP Wastewater Treatment Plant of the Year Award

**AFTER**





# Loopers Control Room





# Riverbend WWTP

BEFORE





# Riverbend WWTP

- Original construction - 1970. Redesign & reconstruction completed in Oct. 2002.
- Riverbend is a 20 MGD “sister” plant to the Loopers facility
  - Fine Screens Building screens all influent for both “sister” plants
  - Equalization Basin (completed April 2004) provides for peak loading and overflow protection for “sister” plants
- 2005 & 2008 winner of GAWP’s Wastewater Treatment Plant of the Year Award

**AFTER**





# Riverbend Equalization Basin



- Employs 3,960 diffusers.  
10.25 million gallon capacity
- Completed February 2004





# Mill Creek Wastewater Plant



- Completed 2008
- Capacity: 0.15 mgd
- Uses biological treatment process with a two-channel Orbal
- Membrane Operating System (MOS) is used for filtration
- Final Treatment consists of Ultra Violet (UV) disinfection.
- TSS removal efficiency 99.88 %
- BOD removal efficiency 99.20%



# Loopers Bend Wastewater Digester

2008





# Biosolids

- Discontinued land application of biosolids in 1998
- Constructed temporary biosolids dewatering facility June 1998
- Rehabilitated existing biosolids sprayfields
- Completed construction of permanent state-of-the-art dewatering facility April 2000
  - Equipped with two CA-755 Westfalia centrifuges
  - Covered storage area
  - Polymer optimization program
- Composting
  - Per OCGA § 12-5-30.3(a)(1): “Sludge” means the solid or semisolid residue generated at a wastewater treatment or pretreatment plant. Such term specifically excludes treated effluent, septage, and sludge treated to further reduce pathogens by such processes as composting, heat drying, or heat treating.





# Composting Operation

- 100 tons of dewatered solids produced per day - 100% composted
- Composting operation began in January 2002
- Permanent composting facility constructed in February 2005
- Outside entity markets finished product





# Biosolids Field Rehabilitation

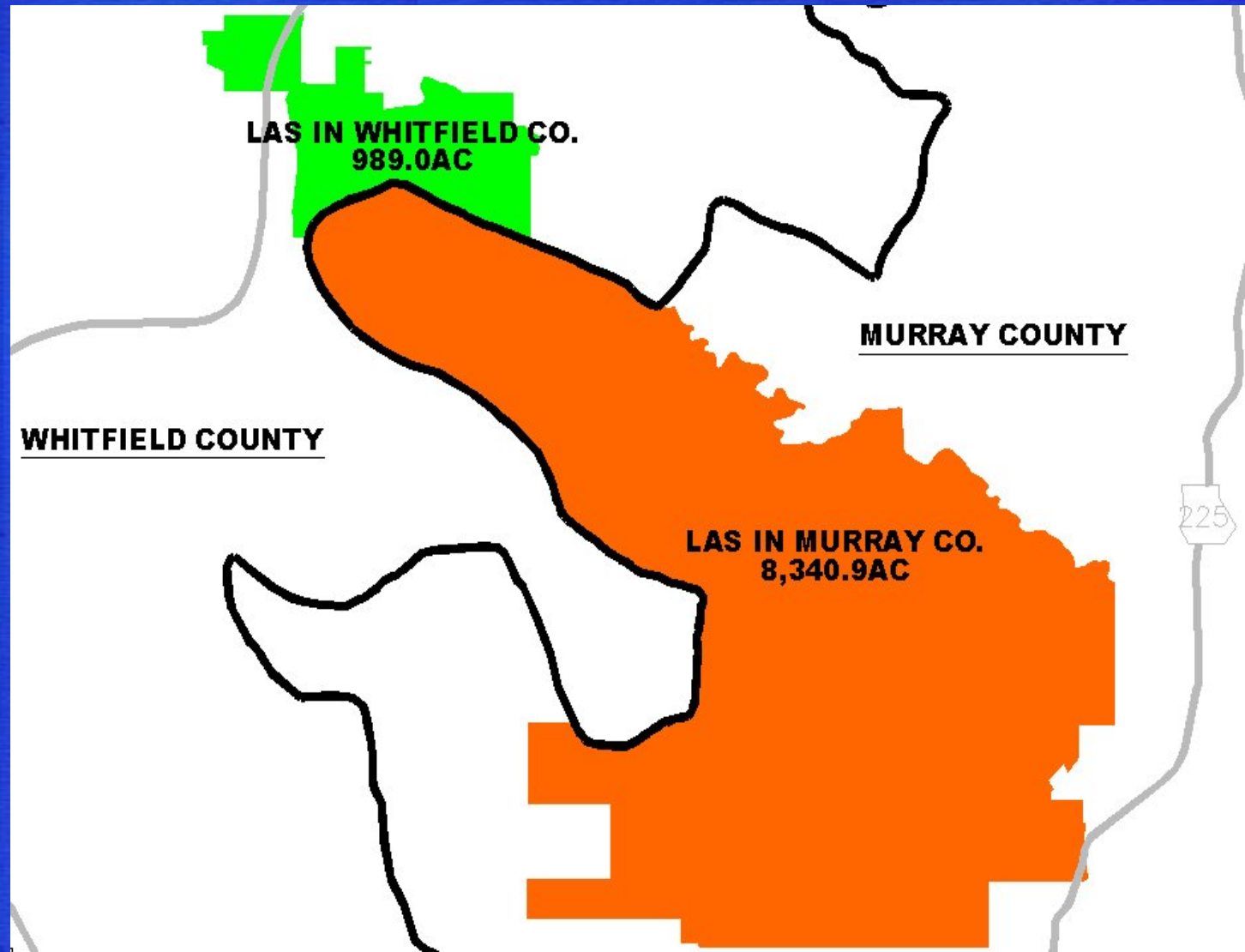
**Removal of 39,316  
tons of applied  
biosolids –  
including removal  
from the 100-year  
floodplain**





# Land Application System (LAS)

- 9,877 acre facility.  
(approximately 6,900 acres in use, 4605 wetted acres)
- Land application of up to 30 MGD of treated effluent (annual average)





# Land Application System - Old

- **The Old Sprayfield System:**

- Above-ground aluminum piping
- Mechanical joints (every 30 ft)
- Unsupported 10' risers
- Deflector Sprayheads
  - 30' spray diameter





# Land Application System - Old



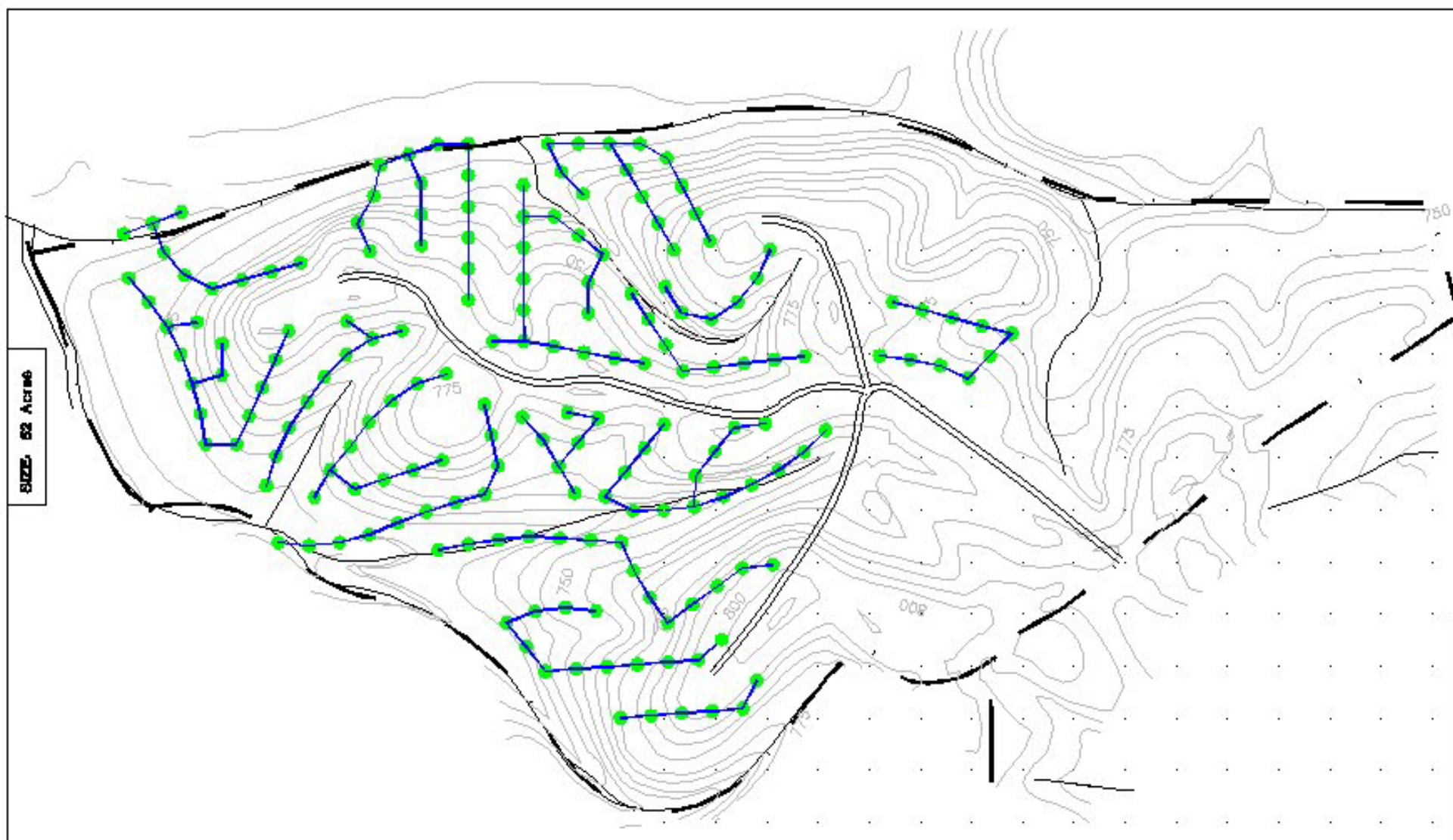


# Land Application System - Interim





# LAS Sprayfield Configuration - BEFORE





# LAS Sprayfield Configuration - AFTER





# LAS Canal System





# Pump Station Upgrades



**BEFORE**

**AFTER**





# LAS

- **System Reconstruction**
  - Hydraulic Optimization
- **Chlorination of Effluent**
  - Distinguishes treated effluent from natural influences
  - Chlorination stations at all three pump stations
- **Canal Dredging**
  - Removed 4500 tons of sludge
- **SCADA upgrades**
  - Work stations at pump stations and LAS control building
  - Security cameras (color)
  - Report Generator





# **Additional Wastewater Operations & Projects**

- **Timber Harvesting & Renewal**
- **1240 MW combined cycle generating plant cooling**
- **Biodiesel Development/Nutrient Load Reductions**





# Wastewater System Awards

## 1999

- GW&PCA Gold Award for Wastewater Treatment Plants & Land Application System

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- GW&PCA Gold Award for Wastewater Treatment Plants & Land Application System

## 2001

- GW&PCA Gold Award for Wastewater Treatment Plants & Land Application System
- GW&PCA Laboratory QA/QC Certificate of Achievement in Category of a Wastewater System > 10 MGD

## 2002

- GW&PCA Gold Award for Wastewater Treatment Plants & LAS





# Wastewater System Awards

## 2003

- GW&PCA Gold Award for Wastewater Treatment Plants & LAS

## 2004

- GW&PCA Platinum Award for Wastewater Treatment Plants & LAS for five consecutive years of excellence in operations
- GW&PCA Wastewater Collection System of the Year
- Recognized by the Department of Natural Resources' Board in 2004 for our phosphorus reduction efforts
- GW&PCA Top Op – Danny Mathis (wastewater operator)
- GW&PCA Laboratory QA/QC Certificate of Achievement in Category of a Wastewater System > 10 MGD

## 2005

- GAWP Platinum Award for Wastewater Treatment Plants & LAS for six consecutive years of excellence in operations
- GAWP's Wastewater Treatment Plant of the Year Award - Riverbend Plant





# Wastewater System Awards

## 2006

GAWP Platinum Award for Wastewater Treatment Plants & LAS  
(7th consecutive year)

GAWP Wastewater Treatment Plant of the Year Award - Loopers Plant

GAWP Wastewater Laboratory QA/QC Award

GAWP Wastewater Collection System of the Year Award

## 2007

GAWP Platinum Award for Wastewater Treatment Plants & LAS  
(9<sup>th</sup> consecutive year)

## 2008

GAWP Platinum Award for Wastewater Treatment Plants & LAS  
(10<sup>th</sup> consecutive year)

GAWP's Wastewater Treatment Plant of the Year Award - Riverbend Plant

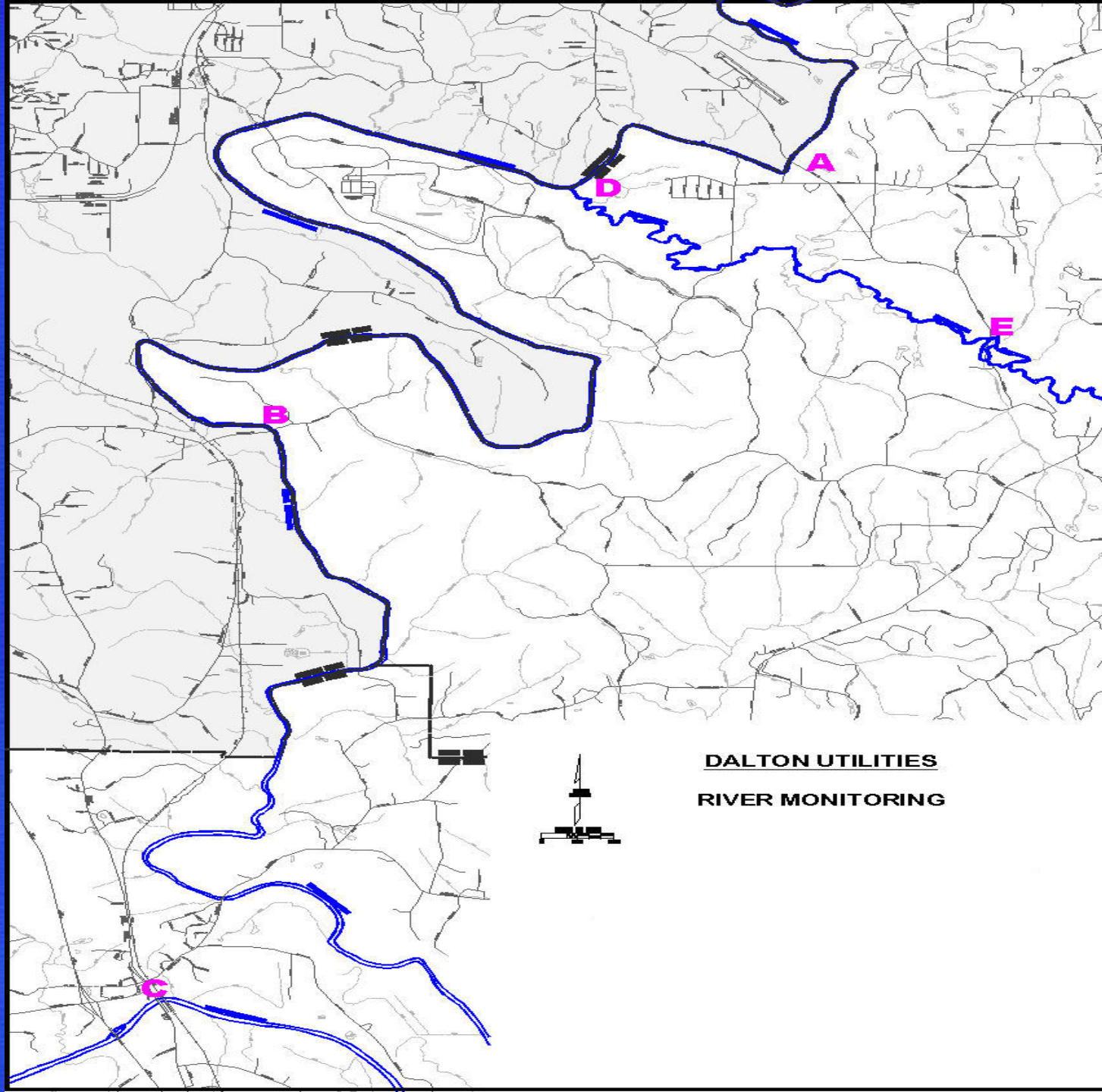
## 2009

GAWP Wastewater Treatment Plant of the Year Award - Loopers Plant



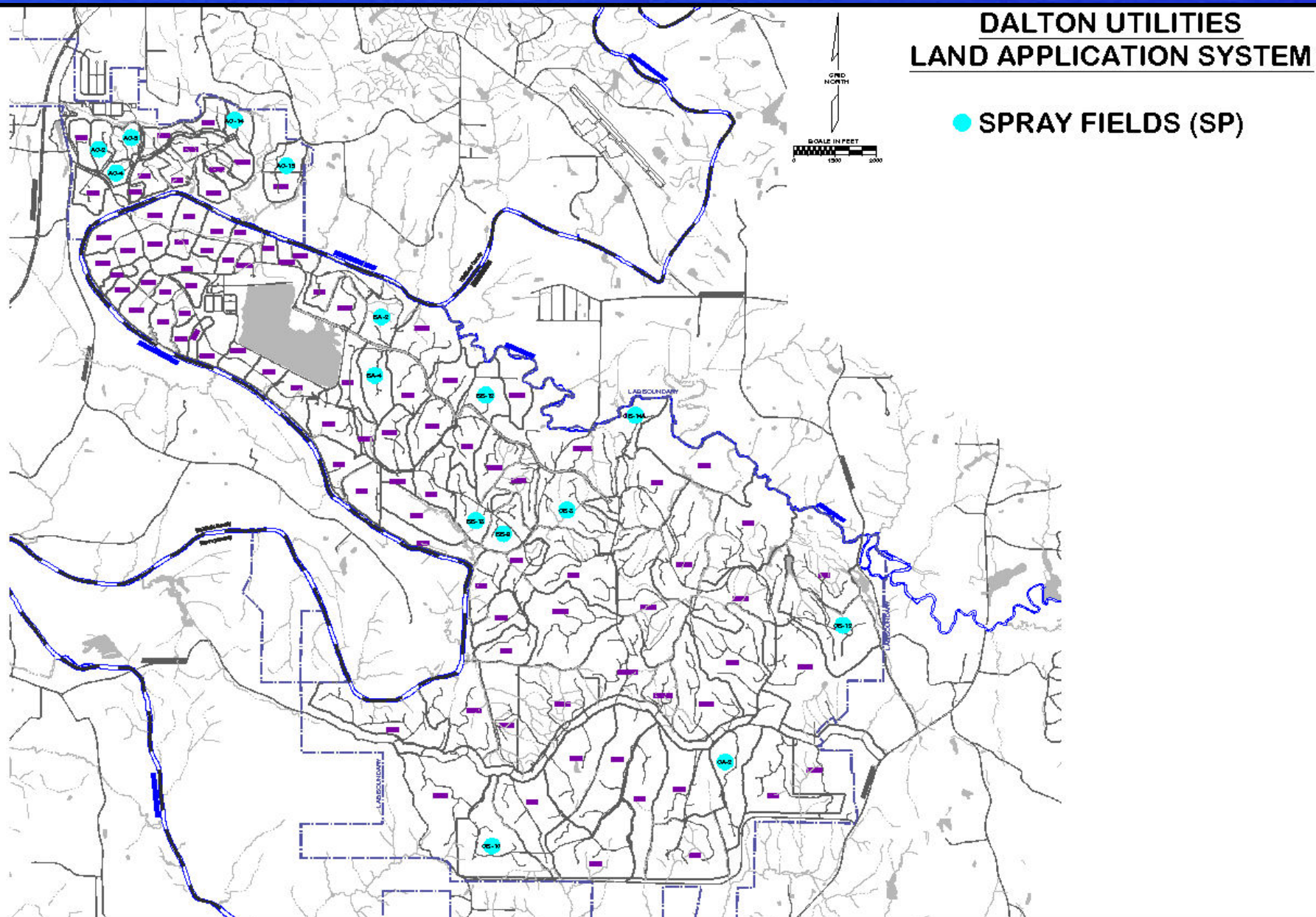


# Surface Water Samples



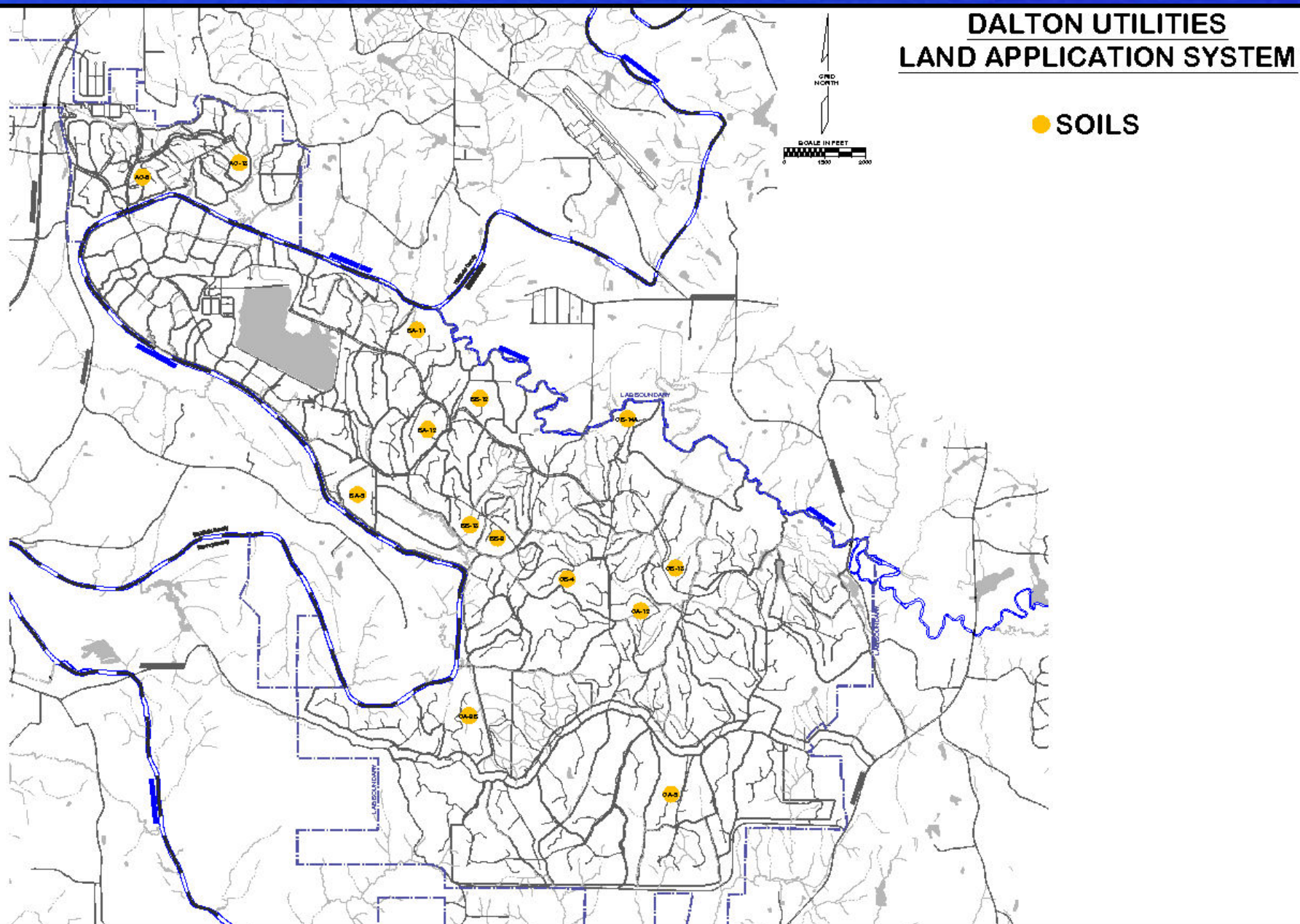


# Sprayfield Samples



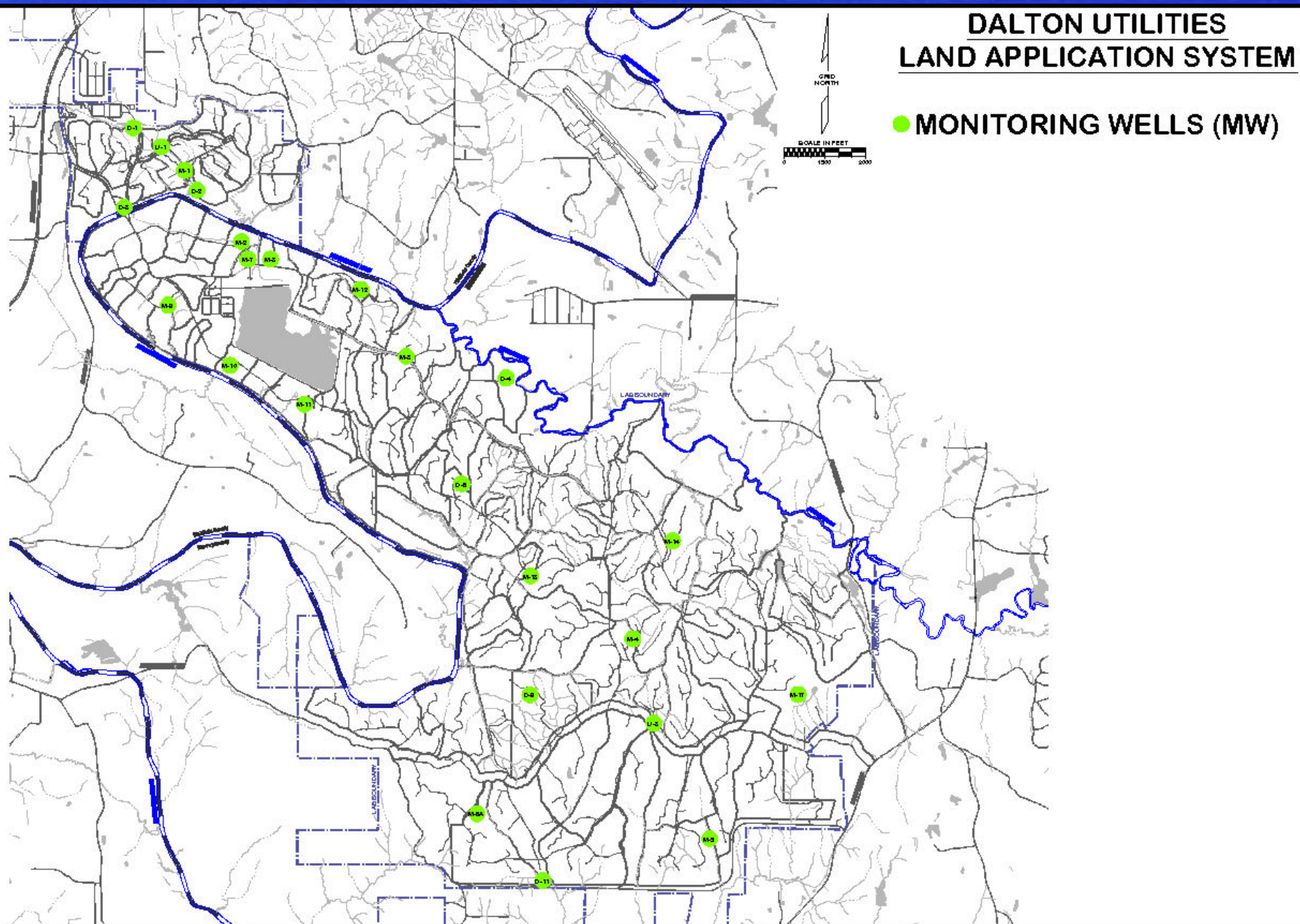


# Soil Samples





# Monitoring Well Samples





# Ongoing/Future Initiatives

- **Influent Evaluation**
  - Georgia DNR Sustainability Division
- **Groundwater/Drinking Water Monitoring**
- **Composting/Solids Operations**
  - Landfill existing compost inventory
  - Analyze & remediate sludge digester
- **Distribution of Compost**



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